



Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION

f a c t s h e e t

Mercury Management for Vehicle Dismantlers, Scrap Steel Recyclers and Crushers

Why is mercury in “end of life” vehicles a problem?

Many vehicles made before the start of model year 2003 contain switches and other components made with mercury. Most mercury switches are found in convenience lighting (in hood and trunks), and in anti-lock brake systems. Mercury can also be found in certain types of high-intensity discharge headlights and some sensors.

Mercury is a toxic metal. When steel from vehicles is recycled without first removing mercury components, the mercury is released into the air when the steel is re-smelted. Airborne mercury is deposited on land and in lakes and ponds, where it can accumulate in people and wildlife. Children and fetuses are particularly vulnerable, because it can damage their developing brains. Massachusetts public health officials have warned people to limit their consumption of certain types of fish caught in our lakes, streams and ponds, with particular cautions for pregnant women, nursing mothers, women of child-bearing years, and young children. While many other sources of mercury have been addressed since the mid 1990s, mercury switches in recycled steel are still a significant source of pollution, which is a significant concern for public health and the environment.

What do vehicle dismantlers, recyclers, and crushers have to do with mercury vehicle switches and other mercury-added vehicle components?

The Massachusetts Mercury Management Act (Chapter 190 of the Acts of 2006) requires that *mercury-containing components must be removed from vehicles before they are shredded or crushed*, unless the component is inaccessible due to significant damage in that area of the vehicle where it is located.

Who has to remove mercury-added components?

Anyone who crushes or arranges to crush an end-of-life vehicle. This includes vehicle dismantlers and recyclers who use stationary or mobile crushers. Also, scrap recycling facilities and shredders can accept end-of-life vehicles that have not been crushed and still contain mercury-added components (e.g., “vehicles on the hook”), but must remove these components before the vehicle is flattened, crushed or baled.

How should the mercury-added components be managed after they are removed from the vehicles?

- Automobile manufacturers have established a program to collect and recycle *mercury switches and switch assemblies*, which is administered by End of Life Vehicle Solutions (ELVS). If you are participating in the ELVS program (described below), please follow the directions that came with the plastic collection bucket that ELVS sends you. Mercury-added switches that have been removed intact (e.g., a complete convenience lighting tilt switch assembly or an ABS assembly) and mercury “bullets” that are encased in metal and removed from switch units should be managed as “Universal Waste.”

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- > Store the bucket in a separate area marked "Universal Waste Accumulation Area."
 - > Store switches and/or switch assemblies in the bucket with the lid securely fastened (except when you are adding switches) until you have collected enough for shipment to the reclamation facility that ELVS has contracted with.
 - > Use the bucket label that ELVS sent to identify the bucket's content as "Universal Waste – Mercury-containing Devices".
 - > You can store Universal Wastes for up to one year. Please note that you must document the date on which you started to store each batch (this is frequently done by noting the date on which the container started to be used to store mercury switches on its label).
 - > When your bucket is full, call United Parcel Service to arrange for a pick-up. Use the mailing label that ELVS sent, to ensure that your bucket will be delivered to the reclamation facility that ELVS has contracted with.
 - > Other mercury components that have been removed may be offered for resale (used mercury switches cannot be re-installed in vehicles). If you do not re-sell these components, they should be managed as Universal Wastes, following the directions below.
- If you do not participate in the ELVS collection/recycling program, you will need to store switches, switch assemblies, and other mercury components that have been removed intact and mercury "bullets" encased in metal in a secure heavy plastic or metal container with a tight lid:
 - > Label your container as "Universal Waste – Mercury Containing Devices", and store it safely, as noted above.
 - > Send switches and other components directly to a recycling facility that has obtained a Class C Hazardous Waste Recycling Permit from MassDEP, or to a recycling facility located in another state that is authorized by that state to reclaim mercury. You may send it to a licensed hazardous waste facility or a consolidation facility, which will in turn send the mercury switches to a reclamation facility.
 - > You can use a common carrier (such as the U.S. Postal Service, United Parcel Service, Federal Express, or other shipping service) to transport the mercury switches.
 - If you accumulate less than 5,000 kilograms (kg) at your site at any one time, you are a *Small Quantity Handler*, and have no requirements to notify MassDEP or to keep records of your shipments. If you accumulate more than this amount at your facility, please see MassDEP's web site for requirements:
<http://www.mass.gov/dep/recycle/laws/regulati.htm#hw>
 - Mercury in most switches is encased in metal, which is not susceptible to breaking, and can be handled as "Universal Waste." However, in some Volvos made between model year 1975 and 1991, switches used for lights in engines and luggage compartments encased mercury in glass. Volvo also used glass encasing for mercury in switches for make-up mirror lights in model years 1986-1991. Glass mercury switches were also used in Audi engine compartment lights in 1992 and earlier vehicles.

If you remove glass-encased mercury switches from the switch unit, the switch must be managed as "Hazardous Waste." Please note: the ampoules must be disposed of at a facility that is licensed to treat, store or dispose of hazardous waste, and you must use a licensed hazardous waste transporter for the shipment. DO NOT MIX

GLASS SWITCHES IN THE COLLECTION BUCKET WITH METAL-ENCASED MERCURY SWITCHES FROM OTHER VEHICLES. If you do and the glass breaks, the entire bucket of switches will be contaminated, and must be handled as hazardous waste.

Can I re-sell the mercury switches and other mercury-added components that I remove from end-of-life vehicles?

Mercury *switches* removed from end-of-life vehicles must be recycled (as Universal Waste) or disposed of as Hazardous Waste, and may not be re-sold. However, other mercury-added components (e.g., high-intensity head lamps and certain airbag deployment devices that contain mercury sensors) can be re-sold. If you do not re-sell these components, then they must be managed as Universal Waste (note: ELVS will not collect or recycle them).

How should I handle mercury that spills?

Removing mercury switches and other components from end-of-life vehicles before they are crushed is the best way to minimize the possibility of mercury spills at your facility (and the associated cleanup liability and costs). Mercury in vehicle switches is encased in metal, which is not likely to leak. However, as with any hazardous material, you will need to be prepared to contain, clean up and manage residuals from any mercury spill if it happens. See below for links to guidance for handling spills. Please note that mercury contaminated residue from a spill should be stored in a plastic container that is structurally sound and has a tight lid, and must be transported and disposed of as a Hazardous Waste.

Staff training: Your facility will need to ensure that all employees who remove and/or manage mercury-added switches and other components are aware of proper handling methods and for emergency procedures for containing and cleaning up mercury spills and leaks.

How will scrap recycling facilities know that crushed vehicles they accept have had their mercury switches removed?

Before delivering or selling vehicle bodies to scrap recycling facilities, vehicle recyclers must certify in writing that all mercury- containing vehicle switches have been removed. MassDEP has developed a model certification form that you may use (attached to this fact sheet). If you develop your own form, it will need to contain the following information:

- Name of the scrap recycling facility that will receive the shipment
- Description of the shipment: list of vehicles (with makes and model numbers), or the truck's license plate number, driver's name and time of delivery
- A statement that the person signing the certification is authorized to do so by the vehicle recycling company (e.g., an officer, manager, director or owner of the company)
- Certification date
- Signature
- Printed name of person signing, his or her title, and the company name

To submit a certification form to MassDEP for approval, please send it to Richard Blanchet, Chief, Transportation Programs Unit, MassDEP Bureau of Waste Prevention, One Winter Street, Boston, MA 02108 or email it to: Richard.Blanchet@state.ma.us.

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What help is available from vehicle manufacturers?

The Massachusetts Mercury Management Act requires vehicle manufacturers to set up programs to assist dismantlers and recyclers with removing and recycling mercury switches. A group of vehicle manufacturers has created the *End of Life Vehicle Solutions Corporation (ELVS)*, which is providing information about locating and removing mercury switches from vehicles made by these manufacturers, and will collect removed mercury vehicle switches and recycle them, *free of charge to participating dismantlers and recyclers*.

If you sign up for this program, ELVS will send you a collection bucket and instructions for identifying and removing mercury switches. ELVS will also arrange for shipping and recycling of the mercury switches collected at your facility. The vehicle manufacturers participating in ELVS will use this program to meet their requirements under the Mercury Management Act.

More Information: Vehicle Switches

- MassDEP form for vehicle recyclers to certify to scrap recyclers that mercury switches have been removed:
<http://www.mass.gov/dep/recycle/hazardous/autobiz.htm#hg>
- Vehicle makes and models offering mercury switch options, switch locations in these vehicles, and removal/handling procedures:
End of Life Vehicle Solutions, Inc. (ELVS)
<http://www.elvsolutions.org>
Register to participate in the vehicle manufacturers' mercury switch collection and recycling program by calling 877-225-ELVS or sending an email from the Web site above.
- Locating, removing, collecting, and consolidating mercury switches from various vehicle makes and models:
California Department of Toxic Substance Control
<http://www.dtsc.ca.gov/HazardousWaste/Mercury/>
(Click to "Managing Mercury Switches from Vehicles and Appliances Under SB 633" then scroll down for a variety of helpful fact sheets and posters.)
- Motor vehicle recycling and mercury switch removal:
Maine Department of Environmental Protection
<http://www.maine.gov/dep/rwm/motorvehiclerecycling/>
- Removing and replacing mercury switches:
Clean Car Campaign
<http://www.cleancarcampaign.org/switchremoval.shtml>

More Information: Mercury Spills

- How to handle mercury spills:
U.S. Environmental Protection Agency
<http://www.epa.gov/epaoswer/hazwaste/mercury/faq/spills.htm#less>
Northeast Waste Management Officials Association
<http://www.newmoa.org/prevention/mercury/smallspills.doc>

- Where to purchase mercury spill kits (partial list):
Michigan Department of Environmental Quality
http://www.michigan.gov/deq/0,1607,7-135-3307_29693_4175-11766--,00.html

More Information: Massachusetts Requirements

- Massachusetts requirements for handling waste mercury containing devices:
310 CMR 30.000, Universal and Hazardous Waste Regulations
<http://www.mass.gov/dep/recycle/laws/regulati.htm#hw>
- MassDEP information for automotive recyclers about compliance with
Massachusetts environmental rules:
<http://www.mass.gov/dep/recycle/hazardous/autobiz.htm>

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